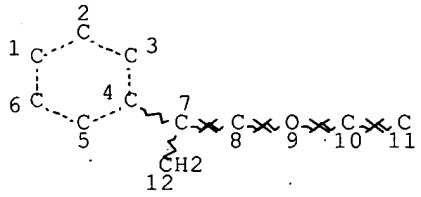
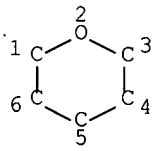
```
=>  FILE REG
FILE 'REGISTRY' ENTERED AT 16:49:42 ON 06 MAR 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2007 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:     5 MAR 2007  HIGHEST RN 924962-30-1
DICTIONARY FILE UPDATES:    5 MAR 2007  HIGHEST RN 924962-30-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH December 2, 2006

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=> FILE HCAPL
FILE 'HCAPLUS' ENTERED AT 16:49:47 ON 06 MAR 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)


Copyright of the articles to which records in this database refer is
held by the publishers listed in the PUBLISHER (PB) field (available
for records published or updated in Chemical Abstracts after December
26, 1996), unless otherwise indicated in the original publications.
The CA Lexicon is the copyrighted intellectual property of the
the American Chemical Society and is provided to assist you in searching
databases on STN.  Any dissemination, distribution, copying, or storing
of this information, without the prior written consent of CAS, is
strictly prohibited.

FILE COVERS 1907 - 6 Mar 2007  VOL 146 ISS 11
FILE LAST UPDATED: 5 Mar 2007  (20070305/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> D QUE
L39             STR
```



NODE ATTRIBUTES:
NSPEC IS RC AT 7
NSPEC IS RC AT 8
NSPEC IS RC AT 9
NSPEC IS RC AT 10
NSPEC IS RC AT 11
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 12

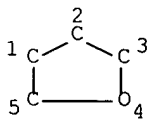
STEREO ATTRIBUTES: NONE
L41 SCR 2043
L43 275 SEA FILE=REGISTRY SSS FUL L39 AND L41
L44 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 6

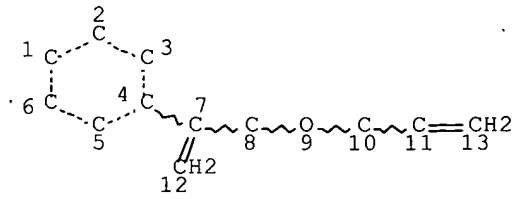
STEREO ATTRIBUTES: NONE
L45 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE
L47 6 SEA FILE=REGISTRY SUB=L43 SSS FUL L44 OR L45
L51 STR



NODE ATTRIBUTES:
NSPEC IS C AT 7
NSPEC IS C AT 8
NSPEC IS C AT 9
NSPEC IS C AT 10
NSPEC IS C AT 11
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE
L54 5 SEA FILE=REGISTRY SUB=L43 SSS FUL L51
L55 5 SEA FILE=HCAPLUS ABB=ON L47
L56 5 SEA FILE=HCAPLUS ABB=ON L54
L57 10 SEA FILE=HCAPLUS ABB=ON L55 OR L56

=> D L57 BIB ABS IND HITSTR 1-10

L57 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:358626 HCAPLUS Full-text
DN 143:60319
TI Cyclopolymerization. XXXIII. Radical polymerizations and copolymerizations of 1,6-dienes with 2-phenylallyl group and thermal properties of polymers derived therefrom
AU Lee, Hyun-Jin; Nakai, Hiroki; Kodaira, Toshiyuki; Urushisaki, Michio; Hashimoto, Tamotsu
CS Department of Materials Science and Engineering, Faculty of Engineering, University of Fukui, Fukui, 910-8507, Japan
SO European Polymer Journal (2005), 41(6), 1225-1233
CODEN: EUPJAG; ISSN: 0014-3057
PB Elsevier B.V.
DT Journal
LA English
AB Radical polymns. of α-allyloxymethylstyrene (1) and copolymns. of α-(2-phenylallyloxy)methylstyrene (2) were undertaken to acquire comprehensive understanding on polymerization behavior of these dienes and to get polymers with high thermal stability and high glass transition temperature (T g). One of the monofunctional counterparts of 1 is a derivative of α-methylstyrene, the ceiling temperature of which is low, and the other is an allyl compound that is well-known for the low homopolymn. tendency. This means that the intermol. propagation reactions leading to pendant uncyclized units are

suppressed during the polymerization of 1 to yield highly cyclized polymers. In fact, the degree of cyclization of poly(1) obtained at 140° attained the value 92%. Structural studies revealed that repeat cyclic units of poly(1) consist exclusively of five-membered rings. Poly(1) was found to be stable up to 300 °C, but its T g values were detected at around 100 °C. They are considerably lower than the targeted values which should lie between 180 and 220°. An addnl. drawback of poly(1) is its low mol. weight probably due to a degradative chain transfer. For this reason, copolymns. of 2 with 1 and with styrene were also carried out to seek for the possibility to control the thermal properties precisely. Monomer 2 was chosen, since it was reported in our previous work that it yields polymers with thermal stability up to 300° and T g higher than 250°. Copolymn. of 2 with styrene afforded polymers with desired thermal properties and high mol. weight

CC 35-4 (Chemistry of Synthetic High Polymers)

ST diene phenylallyl cyclopolymn thermal property

IT Polymerization
(cyclopolymn.; radical polymns. and copolymns. of dienes with phenylallyl group and thermal properties)

IT Glass transition temperature
(radical polymns. and copolymns. of dienes with phenylallyl group and thermal properties)

IT **697287-35-7P 697287-36-8P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(radical polymns. and copolymns. of dienes with phenylallyl group and thermal properties)

IT 106-95-6, reactions 6006-81-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(radical polymns. and copolymns. of dienes with phenylallyl group and thermal properties)

IT 123078-75-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(radical polymns. and copolymns. of dienes with phenylallyl group and thermal properties)

IT 853908-17-5P 853908-18-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(radical polymns. and copolymns. of dienes with phenylallyl group and thermal properties)

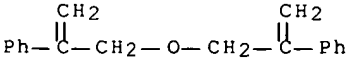
IT **697287-35-7P 697287-36-8P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(radical polymns. and copolymns. of dienes with phenylallyl group and thermal properties)

RN 697287-35-7 HCAPLUS

CN Benzene, 1,1'-[oxybis(1-methylene-2,1-ethanediyl)]bis-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 53891-28-4
CMF C18 H18 O

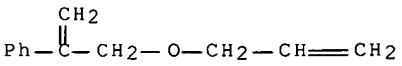


RN 697287-36-8 HCAPLUS

CN Benzene, [1-[(2-propenyloxy)methyl]ethenyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 123078-75-1
CMF C12 H14 O



RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L57 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:815499 HCAPLUS Full-text
DN 142:23580
TI Cyclopolymerization. Part XXXII. Radical polymerization of α-(2-phenylallyloxy)methylstyrene: synthesis of highly cyclized polymers with high glass transition temperatures and thermal stability
AU Lee, Hyun-Jin; Kodaira, Toshiyuki; Urushisaki, Michio; Hashimoto, Tamotsu
CS Department of Materials Science and Engineering, Faculty of Engineering, University of Fukui, Fukui, 910-8507, Japan
SO Polymer (2004), 45(22), 7505-7512
CODEN: POLMAG; ISSN: 0032-3861
PB Elsevier Ltd.
DT Journal
LA English
AB A new 1,6-diene, α-(2-phenylallyloxy)methylstyrene (1), was synthesized and its radical cyclopolymns. were studied, since 1 is expected to yield highly cyclized polymers with thermal stability and high glass transition temps. A low homopolymn. tendency of the monofunctional counterpart of 1 can be assumed reasonably, because it is a derivative of α-methylstyrene with a low ceiling temperature This means that intermol. propagation leading to pendant unsaturations is hard to occur during the polymerization of 1, which results in the formation of highly cyclized polymers. In fact, the degree of cyclization of poly(1) obtained at 180°C attained the value 99%. Structural studies using a monomeric cyclic compound obtained by the telomerization of 1 permitted to assign main repeating cyclic units of poly(1) to a six-membered ring. The poly(1)s with a higher degree of cyclization were found to be stable up to 300°C on thermogravimetric analyses and their glass transition temps. were detected at temps. over 250°C.
CC 35-4 (Chemistry of Synthetic High Polymers)
ST phenylallyloxymethylstyrene cyclization prepn polymn; polyphenylallyloxymethylstyrene prepn thermal stability glass temp
IT Glass transition temperature
Thermal stability
(cyclopolymn. of α-(2-phenylallyloxy)methylstyrene for synthesis of highly cyclized polymers with high glass transition temps. and thermal stability)
IT Polymerization
(cyclopolymn.; cyclopolymn. of α-(2-phenylallyloxy)methylstyrene for synthesis of highly cyclized polymers with high glass transition temps. and thermal stability)
IT 28931-31-9P **697287-35-7P** 800369-31-7P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(cyclopolymn. of α-(2-phenylallyloxy)methylstyrene for synthesis of highly cyclized polymers with high glass transition temps. and

thermal stability)

IT 3360-54-1P, α-Bromomethylstyrene 30584-69-1P, Hydroxymethylstyrene 53891-28-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(cyclopolymn. of α-(2-phenylallyloxy)methylstyrene for synthesis of highly cyclized polymers with high glass transition temps. and thermal stability)

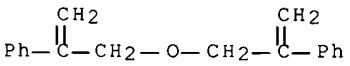
IT 800369-32-8P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(telomerization product; cyclopolymn. of α-(2-phenylallyloxy)methylstyrene for synthesis of highly cyclized polymers with high glass transition temps. and thermal stability)

IT **697287-35-7P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(cyclopolymn. of α-(2-phenylallyloxy)methylstyrene for synthesis of highly cyclized polymers with high glass transition temps. and thermal stability)

RN 697287-35-7 HCAPLUS
CN Benzene, 1,1'-[oxybis(1-methylene-2,1-ethanediyl)]bis-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 53891-28-4
CMF C18 H18 O

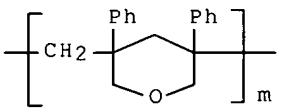


RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

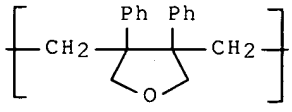
L57 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:801694 HCAPLUS Full-text
DN 141:306188
TI Manufacture of substrates using thermoplastic polyphenylaryloxymethylstyrene for magnetic recording media
IN Kobayashi, Ryoji; Tsuda, Koichi; Chang, Yung-yi; Sakaguchi, Shoji
PA Fuji Electric Holding Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2004273072	A	20040930	JP 2003-65588	20030311
PRAI JP 2003-65588		20030311		

GI



I



II

AB At least 2 thermoplastic layers from different materials (I) and (II) (m, n = integer ≥1) which have different mech. strengths are laminated on substrates from materials which have greater glass transition temperature and mech. strength than the thermoplastics. The manufacturing process includes press molding of the thermoplastics at higher than glass transition temperature

IC ICM G11B005-73
ICS B32B027-30; C08F016-32; G11B005-64; G11B005-72; G11B005-725; G11B005-84

CC 77-8 (Magnetic Phenomena)

ST substrate thermoplastic polyphenylaryloxymethylstyrene magnetic recording media; press molding thermoplastic glass transition temp

IT Magnetic recording materials
(manufacture of substrates using thermoplastic polyphenylaryloxymethylstyren
e for magnetic recording media)

IT Glass transition temperature
(of substrates using thermoplastic polyphenylaryloxymethylstyrene for magnetic recording media)

IT Molding
(press; in manufacture of substrates using thermoplastic polyphenylaryloxymethylstyrene for magnetic recording media)

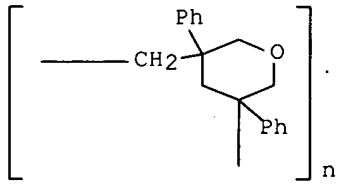
IT Plastics, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(thermoplastics; manufacture of substrates using thermoplastic polyphenylaryloxymethylstyrene for magnetic recording media)

IT **764659-86-1 764659-87-2**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(press molding in manufacture of substrates using thermoplastic polyphenylaryloxymethylstyrene for magnetic recording media)

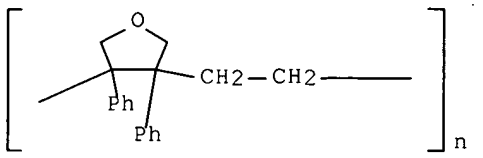
IT **764659-86-1 764659-87-2**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(press molding in manufacture of substrates using thermoplastic polyphenylaryloxymethylstyrene for magnetic recording media)

RN 764659-86-1 HCAPLUS

CN Poly[(tetrahydro-3,5-diphenyl-2H-pyran-3,5-diyl)methylene] (9CI) (CA INDEX NAME)



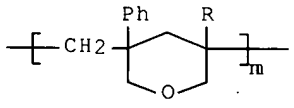
RN 764659-87-2 HCAPLUS
CN Poly[(tetrahydro-3,4-diphenyl-3,4-furandiyl)-1,2-ethanediyl] (9CI) (CA INDEX NAME)



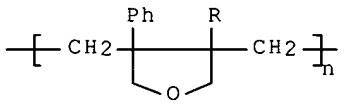
L57 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:451660 HCAPLUS Full-text
DN 141:8038
TI Thermoplastic allyloxymethylstyrene-based resin with good heat and humidity resistance and moldability
IN Tei, Youichi; Kodaira, Toshiyuki
PA Fuji Electric Device Technology Co., Ltd., Japan
SO U.S. Pat. Appl. Publ., 9 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004106756	A1	20040603	US 2003-706987	20031114
	JP 2004161939	A	20040610	JP 2002-331197	20021114
	SG 123572	A1	20060726	SG 2003-6761	20031111
PRAI	JP 2002-331197	A	20021114		

GI



I



II

AB The present invention relates to a thermoplastic allyloxymethylstyrene- based resin comprising structural units I and II, wherein R = H or a hydrocarbon group, and m, n = 0 or ≥1 integer excluding m = n = 0. Thus, 193 g α-bromomethylstyrene and 262 g α- hydroxymethylstyrene were reacted at 40° for 50 h in the presence of sodium hydroxide and tetrabutylammonium bromide to give phenylallyloxymethylstyrene, 100 mL of which was polymerized in the presence of AIBN to give a polymer with glass transition temperature 220°, thermal decomposition temperature 360°, moisture content 0.008%, and Mn 14,000.

IC ICM C08F224-00
INCL 526266000
CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 38
ST thermoplastic allyloxymethylstyrene resin heat humidity resistance moldability; bromomethylstyrene hydroxymethylstyrene reactant monomer prepn; phenylallyloxymethylstyrene homopolymer prepn

IT Heat-resistant materials
Water-resistant materials
(preparation of thermoplastic allyloxymethylstyrene-based resin with good heat and humidity resistance and moldability)

IT Molded plastics, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(preparation of thermoplastic allyloxymethylstyrene-based resin with good heat and humidity resistance and moldability)

IT Plastics, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(thermoplastics; preparation of thermoplastic allyloxymethylstyrene-based resin with good heat and humidity resistance and moldability)

IT 53891-28-4P, Benzene, 1,1'-[oxybis(1-methylene-2,1-ethanediyl)]bis-
123078-75-1P, Benzene, [1-[(2-propenyloxy)methyl]ethenyl]-
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomer; preparation of thermoplastic allyloxymethylstyrene-based resin with good heat and humidity resistance and moldability)

IT **697287-35-7P 697287-36-8P**
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of thermoplastic allyloxymethylstyrene-based resin with good heat and humidity resistance and moldability)

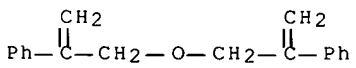
IT 106-95-6, Allyl bromide, reactions 3360-54-1, α-Bromomethylstyrene
6006-81-1, α-Hydroxymethylstyrene
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant in monomer preparation; preparation of thermoplastic allyloxymethylstyrene-based resin with good heat and humidity resistance and moldability)

IT **697287-35-7P 697287-36-8P**
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of thermoplastic allyloxymethylstyrene-based resin with good heat and humidity resistance and moldability)

RN 697287-35-7 HCAPLUS
CN Benzene, 1,1'-[oxybis(1-methylene-2,1-ethanediyl)]bis-, homopolymer (9CI) (CA INDEX NAME)

CM 1

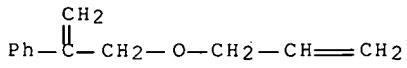
CRN 53891-28-4
CMF C18 H18 O



RN 697287-36-8 HCAPLUS
CN Benzene, [1-[(2-propenyloxy)methyl]ethenyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 123078-75-1
CMF C12 H14 O



L57 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:848926 HCAPLUS Full-text
DN 136:119162
TI Preparation and characterization of a new solvent-free polymer electrolyte based on spiroketal structure
AU Tsutsumi, Hiromori; Shirotani, Rumiko; Onimura, Kenjiro; Oishi, Tsutomu
CS Department of Applied Chemistry and Chemical Engineering, Faculty of Engineering, Yamaguchi University, Yamaguchi, 755-8611, Japan
SO Electrochemical and Solid-State Letters (2001), 4(12), A195-A196
CODEN: ESLEF6; ISSN: 1099-0062
PB Electrochemical Society
DT Journal
LA English
AB Solvent-free solid polymer electrolytes based on spiropolymers were prepared and their properties were confirmed by conductance, differential scanning calorimetry, and X-ray diffraction measurements. The spiropolymer was synthesized from the bicyclic diketone and pentaerythritol. The spiro-polyketal (SP) dissolves lithium perchlorate and the conductivity of the (SP)1.5(LiClO4)1 complex is 4.24 + 10-5 S cm-1 at 30° and 3.83 + 10-4 S cm-1 at 60°.
CC 37-5 (Plastics Manufacture and Processing)
Section cross-reference(s): 36, 76
ST cyclic polyether lithium perchlorate polymer electrolyte film prepn; spiroketal cyclic polyether lithium perchlorate complex cond
IT Spiro compounds
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(ketals; preparation and characterization of a new solvent-free polymer electrolyte based on spiroketal structure)
IT Electric conductivity
Films
Glass transition temperature
Phase transition enthalpy
Polymer electrolytes
(preparation and characterization of a new solvent-free polymer electrolyte based on spiroketal structure)
IT Polyethers, preparation
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation and characterization of a new solvent-free polymer electrolyte based on spiroketal structure)
IT Ketals
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(spiroketals; preparation and characterization of a new solvent-free polymer
electrolyte based on spiroketal structure)
IT Polymers, preparation
RL: POF (Polymer in formulation); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(spiropolymers; preparation and characterization of a new solvent-free polymer electrolyte based on spiroketal structure)
IT 7791-03-9, Lithium perchlorate

RL: MOA (Modifier or additive use); USES (Uses)
(preparation and characterization of a new solvent-free polymer electrolyte based on spiroketal structure)

IT 391671-10-6P, 1,5-Diethylbicyclo[3.3.0]octane-3,7-dione-pentaerythritol copolymer **391671-11-7P**
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation and characterization of a new solvent-free polymer electrolyte based on spiroketal structure)

IT **391671-11-7P**
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation and characterization of a new solvent-free polymer electrolyte based on spiroketal structure)

RN 391671-11-7 HCAPLUS
CN Poly(3''a,6''a-diethyltetrahydrodispiro[1,3-dioxane-5,5'-[1,3]dioxane-2',2''(1''H)-pentalene]-2,5''(3''H)-diylidene) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L57 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:66838 HCAPLUS Full-text
DN 128:160897
TI Dissolution inhibitors for 193-nm chemically amplified resists
AU Ushirogouchi, Tohru; Asakawa, Koji; Okino, Takeshi; Shida, Naomi; Kihara, Naoko; Nakase, Makoto
CS Mater. Devices Rs. Lab., Res. Dev. Cent., Toshiba Corp., Toshiba, 210, Japan
SO Japanese Journal of Applied Physics, Part 1: Regular Papers, Short Notes & Review Papers (1997), 36(12B), 7625-7631
CODEN: JAPNDE; ISSN: 0021-4922
PB Japanese Journal of Applied Physics
DT Journal
LA English
AB Dissoln. characteristics and adhesion of 193-nm resists have been investigated by using MO calcns. The calcn. indicated that naphthalene compound had better adhesion than alicyclic compds. by a factor of 1.2. Another calcn. result obtained indicated that naphthalene was more hydrophilic than alicyclic compds. In order to improve the adhesion and dissoln. characteristics of the alicyclic resist, introduction of the naphthalene backbone into alicyclic resists was attempted in the form of additives (dissoln. inhibitors) or copolymer components. Dissoln. inhibitors that have simultaneously a naphthol novolak backbone and a characteristic generate carboxylic acid, such as tetrahydropyranyl ester of naphthol novolak compound condensed with glyoxlic acid (NV4THP), were the most effective dissoln. inhibitors increasing dry etch resistance of base polymer by 14% and pattern resolution of original resist by 10%. The naphthalene dissoln. inhibitor also largely improves pattern adhesion. These results were consistent with above-mentioned calcn. results. 193-Nm resists containing vinyl naphthalene in the copolymer structure were also investigated and fundamental resist requirements were satisfied with this polymer by adding adamantane dissoln. inhibitor di-ter-Bu 2-((1-adamanthyl)carbonylmethyl) malonate (ADTB).
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST dissoln inhibitor chem amplified photoresist
IT Photoresists
(chemical-amplified; dissoln. inhibitor for)
IT 202654-72-6, Menthyl acrylate-methacrylic acid-tetrahydropyranyl acrylate

copolymer 202654-73-7, Menthyl acrylate-methacrylic acid-methyl methacrylate copolymer 202654-74-8, Menthyl acrylate-methacrylic acid-tetrahydropyranyl acrylate-2-vinylnaphthalene copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(contained in 193-nm chemical amplified resist)

IT 51757-47-2 191413-52-2 202654-65-7 202654-66-8 202654-67-9 **202654-69-1** 202654-71-5
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(dissoln. inhibitors for 193-nm chemical amplified resist)

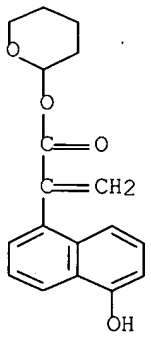
IT **202654-69-1**
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(dissoln. inhibitors for 193-nm chemical amplified resist)

RN 202654-69-1 HCAPLUS

CN 1-Naphthaleneacetic acid, 5-hydroxy-α-methylene-, tetrahydro-2H-pyran-2-yl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 202654-68-0
CMF C18 H18 O4

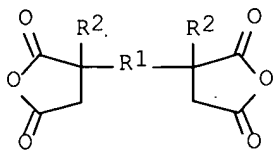


RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

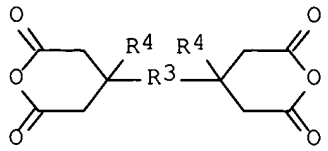
L57 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1997:14617 HCAPLUS Full-text
DN 126:67628
TI Preparation of polyamic acids and polyimides as liquid crystal orientation agents
IN Kawamura, Shigeo; Michino, Yoshuki; Eguchi, Kazuhiro; Matsuki, Yasuo
PA Japan Synthetic Rubber Co., Ltd., Japan; JSR Ltd.
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08259949	A	19961008	JP 1995-68073	19950327
	JP 3700197	B2	20050928		
PRAI	JP 1995-68073		19950327		

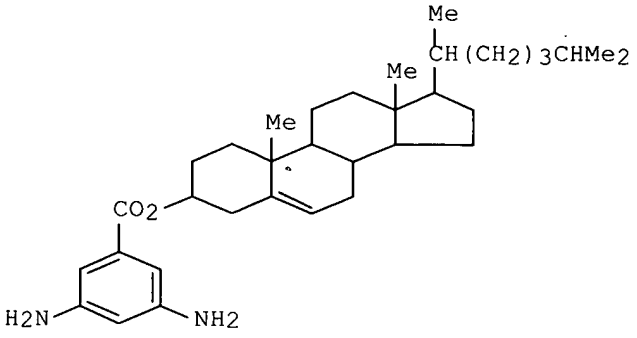
GI



I



II



III

AB A liquid crystal orientation agent contains a polyamic acid obtained by reaction of tetracarboxylic acid dianhydrides with diamines and/or polyimides obtained by dehydration-cyclization of the polyamic acid. Said tetracarboxylic acid anhydrides fulfill the following conditions (1) they contains ≥1 aromatic rings, (2) 4 carbonyl groups forming the 2 acid anhydride group are not directly bonded to the aromatic rings, (3) the mol. structures are sym., and (4) they do not contains O forming ether bonds. Preferred tetracarboxylic acid anhydrides are represented by formula (I or II; R1, R3 = bivalent organic radical containing ≥1 aromatic rings; R2, R4 = H, alkyl). Above liquid crystal orientation agent forms a liquid crystal orientation film which show good liquid crystal orientation under relatively mild rubbing conditions and possess excellent electronic properties. Thus, II (R4 = H, R3 = 1,4-phenylene) 31.56, p-phenylene diamine 10.72, and diamine (III) 2.72 g were dissolved in 405 g N-methyl-2-pyrrolidone, heated at 60° for 6 h, and poured into a large excess of MeOH for precipitation to give, after washing the precipitate with MeOH, 40.25 g polyamic acid. This polymer (6 g) was dissolved in 120 g γ-butyrolactone to gave a .apprx.5 weight% solution, which was spin-coated on a glass substrate for a liquid crystal device and dried at 200° for 1 h to form a thin film (0.05 μm). The film was treated by a rubbing machine having a roll rapped with a Rayon cloth to form a liquid crystal orientation film, which showed good orientation for nematic liquid crystal MLC-2001 and 98.5% voltage retention ratio at 60°.

IC ICM C09K019-56
ICS G02F001-1337

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 75

ST polyamic acid prepn liq crystal orientation; polyimide prepn liq crystal orientation agent; tetracarboxylic acid anhydride diamine copolymer prepn

IT Liquid crystal displays
(preparation of polyamic acids and polyimides as liquid crystal orientation agents)

IT Polyamic acids
RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or

engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(tetracarboxylic acid dianhydrides-diamines copolymers; preparation of polyamic acids and polyimides as liquid crystal orientation agents)

IT Polyimides, preparation
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(tetracarboxylic acid dianhydrides-diamines copolymers; preparation of polyamic acids and polyimides as liquid crystal orientation agents)

IT 184908-88-1P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamic acid and polyimide; preparation of polyamic acids and polyimides as liquid crystal orientation agents)

IT 173027-20-8P 173027-23-1P 184908-82-5P 184908-84-7P 184908-86-9P 184908-89-2P 184908-90-5P 184908-91-6P **184908-92-7P** 184908-93-8P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamic acid; preparation of polyamic acids and polyimides as liquid crystal orientation agents)

IT 89-32-7 106-50-3, 1,4-Benzenediamine, reactions 2420-87-3, [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone 13912-65-7 78540-30-4 78540-33-7 78546-37-9 87078-75-9 173027-19-5 184908-75-6 184908-76-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of polyamic acids and polyimides as liquid crystal orientation agents)

IT **184908-92-7P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamic acid; preparation of polyamic acids and polyimides as liquid crystal orientation agents)

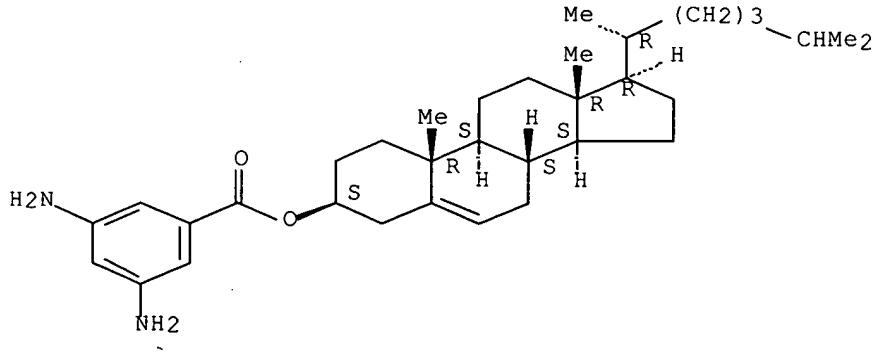
RN 184908-92-7 HCAPLUS

CN Cholest-5-en-3-ol (3β)-, 3,5-diaminobenzoate, polymer with 1,4-benzenediamine and 3,3'-(1,4-phenylene)bis[dihydro-3-methyl-2,5-furandione] (9CI) (CA INDEX NAME)

CM 1

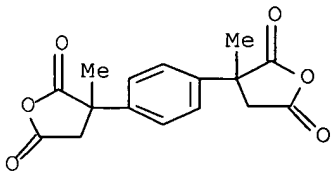
CRN 173027-19-5
CMF C34 H52 N2 O2

Absolute stereochemistry.



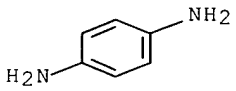
CM 2

CRN 78546-37-9
CMF C16 H14 O6



CM 3

CRN 106-50-3
CMF C6 H8 N2



L57 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1993:672538 HCAPLUS Full-text
DN 119:272538
TI Unsaturated polymers with high refractive index
IN Takaoka, Toshiaki; Tanaka, Katsuyoshi; Kato, Kenji
PA Nippon Oils & Fats Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05125115	A	19930521	JP 1991-288100	19911101
PRAI	JP 1991-288100		19911101		

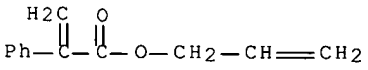
AB The title polymers with good transparency and heat resistance, useful for optical materials such as lenses, optical elements, etc., are prepared by polymerizing monomers containing unsatd. compds. CH2:C(CO2R)(CH2)nC6H3X (R = C1-4 alkyl, alkenyl, C3-12 cycloalkyl, CH2C6H3Y, C6H3Y, X, Y = H, Cl, Br, I; n = 0, 1). Thus, a mixture of Me α-phenylacrylate 5, 2,2-bis(4-acryloyloxydiethoxyphenyl)propane 5, and Bz2O2 0.2 g was cast between glass plates and heated at 70° for 15 h, the temperature was increased to 120° for 3 h and kept at 120° for 2 h to obtain a polymer showing refractive index 1.583, yellowing index 0.52, Abbe number 34, and no change at 130° or in Me2CO for 2 h.

IC ICM C08F020-30
ICS G02B001-04

CC 37-3 (Plastics Manufacture and Processing)
ST acrylic polymer prepn refractive index; heat resistant acrylic polymer transparent; optical material acrylic polymer
IT Transparent materials
(heat-resistant, acrylic polymers, with high refractive index, for optical materials).
IT Heat-resistant materials
(transparent, acrylic polymers, with high refractive index, for optical materials)
IT 31308-21-1P 151204-58-9P 151204-59-0P 151206-36-9P 151206-38-1P
151206-39-2P 151206-40-5P 151206-41-6P 151206-43-8P
151234-27-4P 151658-15-0P
RL: PREP (Preparation)
(preparation of, with high refractive index, heat-resistant, transparent, for optical materials)
IT **151234-27-4P**
RL: PREP (Preparation)
(preparation of, with high refractive index, heat-resistant, transparent, for optical materials)
RN 151234-27-4 HCAPLUS
CN 1,3-Benzenedicarboxylic acid, di-2-propenyl ester, polymer with (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) bis(2-methyl-2-propenoate) and 2-propenyl α-methylenebenzeneacetate (9CI) (CA INDEX NAME)

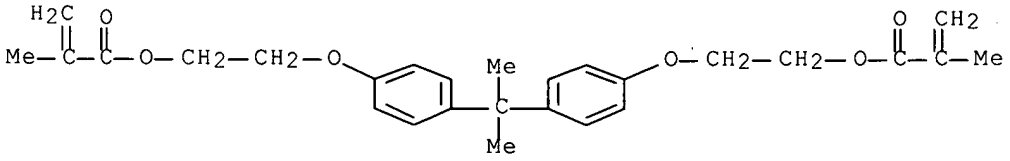
CM 1

CRN 151234-26-3
CMF C12 H12 O2



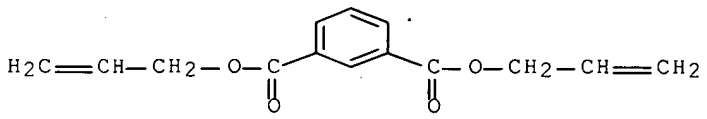
CM 2

CRN 24448-20-2
CMF C27 H32 O6



CM 3

CRN 1087-21-4
CMF C14 H14 O4



L57 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1987:5540 HCAPLUS Full-text
DN 106:5540
TI Preparation and characterization of polysuccinimides
AU Woo, Edmund P.
CS Cent. Res., Dow Chem. Co., Midland, MI, 48674, USA
SO Journal of Polymer Science, Part A: Polymer Chemistry (1986), 24(11), 2823-30
CODEN: JPACEC; ISSN: 0887-624X
DT Journal
LA English
AB A series of polysuccinimides was prepared from 1,4-bis(tetrahydrofuran-2,5-dion-3-yl)benzene [78540-30-4] and characterized by various thermal and mech. methods. The polyimides showed excellent solvent and heat resistance, a balanced mech. property profile, and good toughness.
CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36
ST polysuccinimide prepn property; tetrahydrofurandionylbenzene polyimide prepn property
IT Glass temperature and transition
(of polysuccinimides)
IT Polyimides, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(polysuccinimides, preparation and properties of)
IT 78540-29-1P, 1,4-Bis(1,2-dicarboxyethyl)benzene
RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(preparation and dehydration of)
IT 78540-30-4P 78546-37-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and polymerization of)
IT 78567-45-0P 78567-72-3P 105710-66-5P 105710-68-7P 105710-71-2P
105726-09-8P 105726-10-1P 105726-11-2P 105726-12-3P
105726-13-4P 105726-14-5P 105744-73-8P 105753-69-3P 105753-70-6P
105753-71-7P 105808-49-9P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and properties of)
IT 77104-45-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with sodium cyanide)
IT 1009-61-6, p-Diacetylbenzene
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with Et cyanoacetate)
IT 143-33-9, Sodium cyanide
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with bis(carbethoxycyanoethenyl)benzene)
IT 105-56-6, Ethyl cyanoacetate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with diacetylbenzene)
IT 47375-13-3

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with sodium cyanide)

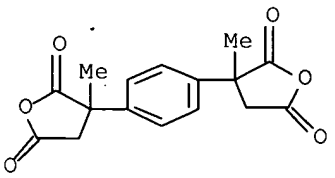
IT **105726-09-8P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and properties of)

RN 105726-09-8 HCAPLUS

CN 2,5-Furandione, 3,3'-(1,4-phenylene)bis[dihydro-3-methyl-, polymer with 4,4'-oxybis[benzenamine] (9CI) (CA INDEX NAME)

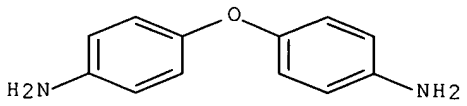
CM 1

CRN 78546-37-9
CMF C16 H14 O6



CM 2

CRN 101-80-4
CMF C12 H12 N2 O



L57 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1972:25654 HCAPLUS Full-text

DN 76:25654

TI Effect of stability of the cyclized radical on the rate of cyclopolymerization

AU Butler, George Bergen; Kimura, Shoichi; Baucom, Keith B.

CS Dep. Chem., Univ. Florida, Gainesville, FL, USA

SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1970), 11(1), 48-52
CODEN: ACPPAY; ISSN: 0032-3934

DT Journal

LA English

AB The differences between the cyclopolymn. rates of methacrylic anhydride [760-93-0] and Me methacrylate [80-62-6], methacrylonitrile [126-98-7] and 2,6-dicyano-1,6-heptadiene [27905-63-1], and 2-phenylallyl methacrylate [15484-48-7] and 2-phenylallyl 2-carboethoxyallyl ether [33065-42-8] are attributed to differences in the stability of the cyclized radicals.

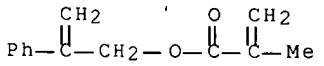
CC 35 (Synthetic High Polymers)

ST cyclopolymn rate methacrylic anhydride; polymn rate dicyanoheptadiene; methyl methacrylate polymn rate; methacrylonitrile polymn rate; allyl

methacrylate polymn rate; phenylallyl ether polymn rate
IT Ring closure and formation
(in polymerization, of dicyanoheptadiene and of methacrylic anhydride)
IT Kinetics of polymerization
(of dicyanoheptadiene and methacrylic anhydride, cycloazation effect on)
IT Infrared spectra
Nuclear magnetic resonance
Ultraviolet and visible spectra
(of dicyanoheptadiene polymers and of methacrylic anhydride polymers and their model compds.)
IT Polymerization
(ring closure in, of dicyanoheptadiene and of methacrylic anhydride)
IT 15484-48-7P 33065-42-8P **34821-26-6P 34821-27-7P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and spectra of)
IT 10029-04-6P 17435-77-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 9011-14-7P 25067-61-2P 25300-99-6P 28931-29-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, kinetics of)
IT **34821-26-6P 34821-27-7P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and spectra of)
RN 34821-26-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-phenyl-2-propenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

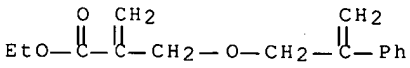
CRN 15484-48-7
CMF C13 H14 O2



RN 34821-27-7 HCAPLUS
CN 2-Propenoic acid, 2-[[(2-phenyl-2-propenyl)oxy]methyl]-, ethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 33065-42-8
CMF C15 H18 O3



=>